

Remarks

Claims 2, 4, 8-14 and 17-20 are be pending in the application. Claims 12-14 have been withdrawn from consideration. Claim 19 has been amended. The various parts of the Office Action are discussed below under appropriate headings.

Claim Rejections – 35 U.S.C. §103

Claims 2, 4, 10-11 and 17-20 have been rejected under 35 U.S.C. §103(a) as obvious over Döhring (WO 00/44984) published August 3, 2000, with evidence by Döhring (US 6,835,421), which is interpreted as being the English language equivalent of '984 and claims priority to ('984), in view of O'Dell et al. (US 5,545,476) and Shirono et al. (WO 01/21529) with Shirono et al. (US 6,994,834) interpreted as being the English equivalent of ('529). The Examiner acknowledges that Döhring '984 fails to teach abrasion resistant particles having an outer coating consisting essentially of an amino-silane adhesion promoter. The Examiner contends that it would have been obvious to use an amino-silane adhesion promoter coating in Döhring '984 based on Shirano et al.'s teaching of an amino-silane treating agent for modifying the surface of fine silica powder to increase the anion adsorption amount of the fine silica powder.

Applicant respectfully traverses the rejection for at least the following reasons. Claim 19 has been amended to recite a paper for a laminate panel comprising: a first layer comprising a resin impregnated decorative paper or a resin impregnated overlay; and a second layer of abrasion resistant particles uniformly distributed on and adhered to the first layer, wherein the abrasion resistant particles have an outer coating *consisting of* an amino-silane adhesion promoter.

The Examiner has cited Shirano et al. for the teaching of an amino-silane adhesion promoter for modifying silica powder for the purpose of "*significantly increasing the adsorption amount of the anion source*". The Examiner contends that the skilled person would have been prompted to use the teaching of Shirano et al. in combination with the teaching of Döhring ('984) and of O'Dell et al. to arrive at the subject matter of pending claim 19. Applicant respectfully disagrees with the Examiner's contention.

Shirano et al. is directed to a surface modified fine silica powder used to produce an ink receptive layer. According to Shirano et al., the surface modified silica powder adsorbs an “anion source compound”, wherein the “anion source compound” may be “the sulfonate or the carboxylate”, preferably “sodium benzenesulfonate” (confer to column 3, lines 4 to 10 of Shirano et al.). Due to the surface treatment, the adsorption amount of these “sulfonate or carboxylates” is increased compared to the original non-treated powder. The aim of Shirano et al. is that by this surface treatment, the silica powder is suitable as a material for improving an “ink acceptor layer” to improve printing materials for ink jet printing processes. Thus, the cited document Shirano et al. is from a completely different field and it is not apparent why the skilled person should refer to this document when trying to improve the teaching of for example, Döhring ('984) or O'Dell et al. which deal with the improvement of laminate panels. The advantages mentioned in Shirano et al. with regard to the “increased adsorption amount” have nothing whatsoever to do with the technology of the present invention.

By coating the abrasion-resistant particles with an adhesion promoter in accordance with the present invention, the thus treated particles integrate better in the resin matrix leading to optically and mechanically improved surfaces. Specifically, with the coated abrasion-resistant particles of the present invention, integration of the particles into the resin matrix is enabled so as to eliminate an optically visible boundary surface between the abrasion-resistant particles and the resin and/or resin matrix, which leads to graying (see page 3, lines 9-12). Furthermore, the interaction of the coated particles with the resin results in the desired adhesion and thus the desired abrasion resistance. This idea is not mentioned nor described in the other prior art documents of Döhring ('984) and O'Dell et al. The Döhring ('984) citation teaches to add abrasion-resistant particles to a special dispersion containing different kinds of materials of which a silane adhesion promoter is only a minor compound in the range of 0.5 to 2.5%. Döhring ('984) does not teach coating any abrasion-resistant particles prior to adding the same to a dispersion containing amino resin, but merely teaches to use a dispersion consisting essentially of an amino resin and further additional means for the manufacture of a laminated panel.

Neither does the teaching of Shirano et al. provide any hint or information for the skilled person to do so, since Shirano et al. only teaches to surface modify a silica powder to increase the adsorption amount of the anion source compared to non-treated powder in order to provide an improved “printing material for an ink jet printing” as mentioned above. A combination of the teachings of Döhring ('984) and Shirano et al. can therefore not lead to the subject matter of the independent pending claim.

Similar to the Döhring ('984) reference, O'Dell et al. teaches to prepare a special dispersion containing so called pre-cured resin particles, water, binder material and abrasion-resistant particles. The abrasion-resistant particles of O'Dell et al. are not coated with a silane adhesion promoter as allegedly disclosed in column 6, lines 42-48, since in this passage it is only suggested to add the abrasion-resistant particles to a dispersion or “slurry” comprising a large amount of liquid melamine resin and pre-cured melamine resin particles. This cannot be considered as being equal to or the same as the inventive coating or abrasion resistant particles with a coating consisting of an amino-silane adhesion promoter before the same are used to manufacture a laminate panel.

Based on the combined teachings of Döhring ('984), O'Dell et al. and Shirano et al., one skilled in the art could not have predicted that a layer of abrasion resistant particles uniformly distributed on and adhered to a resin impregnated decorative paper layer, wherein the abrasion resistant particles have an outer coating consisting of an amino-silane adhesion promoter, would provide a laminate panel having superior optical and mechanical properties. The combination of the cited references fails to provide sufficient motivation for one skilled in the art to pursue the claimed laminate panel. Because prima facie obviousness has not been established, the rejection of claims 2, 4, 10-11 and 17-20 under 35 U.S.C. §103(a) should be withdrawn.

Claims 2, 4, 8-11 and 17-20 have been rejected under 35 U.S.C. 103(a) as obvious over Döhring et al. (US 2003/0138600) in view of O'Dell et al. (US 5,545,476) and Shirono et al. (WO 01/21529) with Shirono et al. (US 6,994,834) interpreted as being the English equivalent of ('529).

Applicant respectfully traverses the rejection for at least the following reasons. Döhring ('600) is similar to Döhring ('984) in that it does not teach to coat any abrasion resistant particles, but merely to use a dispersion consisting essentially of a melamine resin and further additional means for the manufacture of a laminated panel. As in the previous rejection, based on the combined teachings of Döhring ('600), O'Dell et al. and Shirano et al., one skilled in the art could not have predicted that a layer of abrasion resistant particles uniformly distributed on and adhered to a resin impregnated decorative paper layer, wherein the abrasion resistant particles have an outer coating consisting of an amino-silane adhesion promoter, would provide a laminate panel having superior optical and mechanical properties. The combination of the cited references fails to provide sufficient motivation for one skilled in the art to pursue the claimed laminate panel. Because prima facie obviousness has not been established, the rejection of claims 2, 4, 8-11 and 17-20 under 35 U.S.C. §103(a) should be withdrawn.

Claims 8-9 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Döhring (WO 00/44984) published August 3, 2000 with evidence by Döhring (US 6,835,421) which is interpreted as being the English equivalent of ('984) and claims priority to ('984) in view of O'Dell et al. (US 5,545,476), Shirono et al. (WO 01/21529) with Shirono et al. (IS 6,994,834) interpreted as being the English equivalent of ('529) and Jaisle et al. (US 4,473,613).

Applicant respectfully traverses the rejection for at least the following reasons. As discussed above, the combination of Döhring ('984), O'Dell et al., and Shirano et al. fails to provide sufficient motivation for one skilled in the art to pursue the claimed laminate panel. The decorative laminate of Jaisle et al. includes a décor sheet impregnated with a first blend of a melamine/formaldehyde resin and an acrylic resin and a second blend of a melamine/formaldehyde resin and abrasive particles. Jaisle et al. fails to cure the deficiencies of the combination of Döhring ('984), O'Dell et al., and Shirano et al. Accordingly, Applicant respectfully requests withdrawal of the rejections of claims 8 and 9 under 35 U.S.C. §103(a).

Conclusion

In view of the foregoing amendment and remarks, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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